

### **REMARKS**

Claims 1 and 3-10 are all the claims pending in the application. By this Amendment, Applicant amends claims 1, 7, and 10 to further clarify the claimed invention and claim 4 for conformity therewith. In addition, Applicant adds claim 11, which is clearly supported throughout the specification *e.g.*, Fig. 4.

#### **I. Summary of the Office Action**

The Examiner objected to the specification and maintained the rejection of claims 1 and 3-10 under 35 U.S.C. § 102.

#### **II. Objection to Specification**

The specification is objected to because of a minor informality. Applicant respectfully requests the Examiner to withdraw this objection to the specification in view of the self-explanatory amendment being made herein.

#### **III. Prior Art Rejection**

Claims 1 and 3-10 are rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,539,221 to Vasudevan et al. (hereinafter “Vasudevan”). Applicant respectfully traverses these grounds of rejection *at least* in view of the following *exemplary* comments.

##### ***A. Exemplary Features of Claim 1***

In an exemplary non-limiting embodiment a cell is divided into areas using information on the handover boundaries obtained from the cellular network. For example, in order to divide a cell into a set of areas, the entering handover boundaries of the neighboring cells, obtained from the cellular network, is used to build the outgoing handover boundaries of the cell. The outgoing handover boundaries of the cell (derived from the entering handover boundaries of the

neighboring cells) are used to divide the cell into areas. It will be appreciated that the foregoing remarks relate to the invention in a general sense, the remarks are not necessarily limitative of any claims and are intended only to help the Examiner better understand the distinguishing aspects of the claims mentioned further below.

Vasudevan does not disclose all of claim 1. For example, Vasudevan does not teach the claimed method of constructing a representation of the geographical distribution of traffic for a cellular radio network including dividing each cell of said cellular network into a set of areas using information on outgoing handovers boundaries of a respective cell obtained from said incoming handover boundaries obtained from said cellular network; determining a traffic value for each of said areas, and determining a representation of the geographical distribution of the traffic from said traffic values; and outputting the determined representation, wherein the traffic value of an area depends on an outgoing handover probability from said area to a neighboring cell.

***B. Examiner's Position and Failure to Rebut Arguments set forth in the Previous Response***

The Examiner has failed to respond to Applicant's arguments. Specifically, the Examiner simply quotes Applicant's argument, then states that Applicant is wrong and quotes word for word the rejection as it is provided in the previous Office Action. The Examiner further neglects to address arguments provided with respect to claim 4 (*see* pages 9 and 10 of the Office Action). Applicant respectfully requests that the Examiner respond to the arguments raised in the previously filed response. MPEP 707.07(f) ("Where the Applicant traverses any rejection, the examiner should, if he or she repeats the rejection, take note of the Applicant's argument and answer the substance of it," emphasis added).

Furthermore, the Examiner alleges that since Applicant did not argue the outputting feature of claim 1, Applicant agrees that this feature is disclosed in the reference (*see* page 9 of the Office Action). Applicant respectfully submits that the Examiner's position is legally inaccurate. The arguments provided in the responses are exemplary and other arguments may be present as well. That is, even if a feature is not argued in the response, Applicant does not agree that this feature is disclosed in the reference.

**C. *Applicant's Position***

Neither Vasudevan's bins nor Vasudevan's sectors can correspond to the recited "areas." Also, dividing a cell into bins and sectors based on the outgoing handover boundaries obtained from incoming boundaries of the neighboring cells obtains from the cell network is not inherently disclosed in Vasudevan.

*Bins*

As an initial matter, Vasudevan's bins cannot correspond to the recited areas. In Vasudevan's wireless network, the cells are divided into "bins" of a fixed size. For example, these bins can be 100m x 100m (*See* Vasudevan at Fig. 3). The bins are then classified based on several factors, including handovers boundaries (*See* Vasudevan at 3:11-29) and traffic (*See* Vasudevan at 4:32-53).

However, Vasudevan's cells are not divided into bins "using information on handovers boundaries obtained from the cellular network." Instead, the cell is first divided into the fixed bins, and then the bins are merely classified based in-part on handover information. As such, Vasudevan's "bins" cannot correspond to the recited "areas" at least because the cell is not

divided into these fixed bins based on handover information but rather only classified after it is divided into bins.

Furthermore, there is no disclosure or suggestion what type of handover information is used to classify the formed bins. That is, Vasudevan does not disclose or even remotely suggest that the bins are classified based on outgoing handover boundaries of the cell which are calculated from incoming handover boundaries, which in turn is obtained from the cellular network.

#### *Sectors*

Moreover, Vasudevan's sectors cannot correspond to the recited areas. Although Vasudevan discloses that the cells of the cellular network can be divided into sectors, there is no disclosure that Vasudevan's cells are divided into sectors "using information on outgoing handovers boundaries of a respective cell obtained from incoming handover boundaries of neighboring cells obtained from said cellular network." *See*, for example, Vasudevan at Fig. 23a-c & 12:36-48.

Also, Vasudevan's reduced "sectors" (i.e., after cell-splitting) cannot correspond to the recited "areas" at least because the geographical distribution of traffic for the cellular network is not determined from traffic values for each of the reduced sectors.

As shown in, for example, Figs. 23a-c of Vasudevan, the size of a cell can be reduced by reducing the transmitting power of a Base Transceiver Station ("BTS"). Vasudevan refers to this reduction of an existing cell size "cell-splitting." In cell-splitting, the transmitted power of a cell site is reduced in order to reduce the traffic of that cell site. *See* Vasudevan at 9:8-17. By reducing the transmitted power, the cell size can be reduced until the cell traffic of the cell is below a maximum traffic threshold value. The amount of reduction of the cell transmission

power, and therefore the cell size, needed to reduce the cell traffic below the threshold value are calculated based on traffic information that has been determined based on a precise bin-to-bin mobility estimation algorithm. *See Vasudevan* at 7:19-37.

Although the size of the cell can also be reduced on a sector basis (for example, in Fig. 23c the size of only one of the three cell sectors is reduced), the reduced “sectors” cannot correspond to the recited “areas” at least because the determination of geographical distribution of traffic is not from the traffic values of the reduced sectors. Instead, the distribution of traffic has already been determined based on the geographical distribution of traffic values of the bins. The reduced “sectors” are merely the result of a precise geographical distribution of the traffic values of the bins.

Furthermore, reducing a size of the cell or cell splitting as disclosed in *Vasudevan* does not disclose or suggest having areas within an existing cell as set forth in claim 1. In *Vasudevan*, a sector is a cell or a reduced cell and not a set of areas within a cell. In addition, sectors of *Vasudevan* are created based on the traffic distribution of the bins and not based on information of the outgoing handover boundaries of this cell.

Also, in *Vasudevan*, there is no inherent disclosure of the outgoing handover boundaries of the cell being determined from the incoming handover boundaries of the neighboring cells. Under the doctrine of “inherency,” if an element is not expressly disclosed in a prior art reference, the reference will still be deemed to anticipate a subsequent claim if the missing element “is necessarily present in the thing described in the reference” *Cont’l Can Co. v. Monsanto Co.*, 948 F.2d 1264, 1268, 20 U.S.P.Q.2d 1746, 1749 (Fed. Cir. 1991). “Inherent anticipation requires that the missing descriptive material is ‘**necessarily present,**’ **not merely probably or possibly present,** in the prior art.” (emphasis added) *Trintec Indus., Inc. v. Top-*

*U.S.A. Corp.*, 295 F.3d 1292, 1295, 63 U.S.P.Q.2d 1597, 1599 (Fed. Cir. 2002); see also MPEP §2112.

The Examiner has failed to provide any evidence that would suggest that the outgoing handover boundaries of the cell must be determined from incoming handover boundaries. In fact, Applicant respectfully submits that the outgoing handover boundaries may be preset and stored in the system as opposed to being determined from the incoming handover boundaries of the neighboring cells. In short, the deficiencies of the Vasudevan reference fall to the Examiner's burden to show inherent inclusion of the claimed elements.

In sum, Vasudevan does not disclose or suggest construing areas based on outgoing handover boundaries of their cell. In Vasudevan, the cells are divided into bins of fixed shape and size, the boundaries of the areas do not stem from boundaries of outgoing handovers of the cell that are themselves derived from boundaries of entering handovers of the neighboring cells. That is, in Vasudevan, the boundaries are geometrically homogenous (bins and sectors) and the boundaries are not data-driven.

For at least these exemplary reasons, independent claim 1 is patentably distinguishable from Vasudevan. Claims 3-6 and 8 are patentable at least by virtue of their dependency on claim 1.

Next, independent claims 7 and 10 recite features similar to, although not necessarily coextensive with, the features argued above with respect to claim 1. Therefore, arguments presented with respect to claim 1 are respectfully submitted to apply with equal force here. For at least substantially analogous exemplary reasons, therefore, independent claims 7 and 10 are patentably distinguishable from Vasudevan. Claim 9 is patentable at least by virtue of its dependency on claim 7.

IV. New Claim

In order to provide more varied protection, Applicant adds claim 11, which is patentable by virtue of its dependency and for additional features set forth therein.

V. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly invited to contact the undersigned attorney at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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